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FITCHBURG, - - - MASS.

REPORT

OF THE

WATER COMMISSIONERS.

1881.

NINTH ANNUAL REPORT
OF THE
WATER COMMISSIONERS
OF THE
CITY OF FITCHBURG, MASS.,
FOR THE YEAR 1881.



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WATER COMMISSIONERS' REPORT.

28 Mar 17 km

WATER COMMISSIONERS' OFFICE,
Fitchburg, Mass., December 1st, 1881.

To his Honor the Mayor, and the City Council:

GENTLEMEN :—The board of Water Commissioners respectfully submit their ninth annual report, for the year ending November 30th, 1881.

EXTENSION OF STREET MAINS.

There has been but one short extension the past year, a 4 inch cast iron pipe on Pearl street, a distance of 183 feet.

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The Water Board have received petitions for extension of the mains in the following streets : High, Forest, Nutting, Blossom and Summer, and Bemis and Mack roads. But as these petitions were not received in season to procure and lay the pipe before the ground froze, the board decided to postpone action till early in the spring.

Total length of street mains, 137,342 feet.

HYDRANTS.

Total number owned by the city, 180.

Total number owned by private parties, 23.

SERVICE PIPES.

The mains have been tapped for service pipes in 73 places. Total number of taps to date 1328.

5870 feet of service pipe have been laid, of which 1874 feet have been charged to takers, and 3196 to the city. Total length of service pipes 82,824 feet ; 49,339 owned by the city and 33,485 by takers.

Water is now supplied as follows :

Families,	1692	Hot houses,	3
Stores and offices,	114	City hall,	1
Manufactories,	32	R. R. engine houses,	4
Stables,	80	Bakeries,	2
Printing offices,	5	Gingham mills,	1
Almshouse,	1	Dye houses,	1
Court house,	1	Churches,	6
Jail,	1	Worsted mills,	2
Boarding houses,	10	Foundries,	4
Engine and hose houses,	7	Laundries,	1
Drinking hydrants,	6	Hotels,	3
Watering troughs,	5	Woolen mills,	3
Water cart posts,	5	Gas company,	1
School houses,	8	Elevators,	3
Paper and pulp mills,	11		
		Total,	<hr/> 2,013

The department has furnished the city with water, the value of which is estimated as follows :

For Schools,	\$600 00
City hall,	100 00
Court house,	36 00
Hydrants at cemeteries,	50 00
7 Engine and hose houses,	175 00
5 Watering troughs,	800 00
3 Drinking fountains,	100 00
Watering streets,	1,200 00
203 Fire hydrants,	10,150 00
	<hr/> \$13,211 00

METERS.

There are 132 water meters now in use. The City own 14 and takers 118.

RESERVOIRS.

The reservoir dams are apparently in good condition. The work done on Scott reservoir dam last year, has proved satisfactory. With the increased amount of water stored in the reservoir, there was an increase of water soaking through the sand hill on the southerly side, which was anticipated by the Commissioners ; but not enough to cause any fears as to the safety of the dam.

April 19th the City Council gave the Water Commissioners authority to construct a small dam below Scott reservoir, near the Ashby west road, for the purpose of turning the water which soaked through the hill, together with the water from several large springs, into the conduit leading to Overlook reservoir.

From measurements taken in the summer of 1880, after Scott reservoir had been emptied four weeks, it was found that these springs were discharging at the rate of 30,000 gallons per day.

By building this dam, the city was able to save about 200,000 gallons of water per day, from the first of May till the first of September, or about 30,000,000 gallons per year, at a total expense of \$450.56.

Scott dam has been raised to its intended height, and the greater part covered with loam. There is yet some grading and grassing of the banks and grounds, which will be attended to in the spring.

TABLE

Showing the average height of water in Overlook and Scott reservoirs,
for the past twelve months.

	Overlook.	Scott.
December,	19.42 feet.	
January,	25.42 "	
February,	23.75 "	14 feet.
March,	28.68 "	27.75 "
April,	32.90 "	35.92 "
May,	36.65 "	38.30 "
June,	39.60 "	39.57 "
July,	36.00 "	38.53 "
August,	31.25 "	35.50 "
September,	27.95 "	30.52 "
October,	24.95 "	24.00 "
November,	26.50 "	19.16 "

December 23rd, 1880, there was but 19 7-10 feet of water in Overlook reservoir, and none in Scott. June 16th, 1881, there was 40 feet in Overlook and 39.6 in Scott. Overlook was full and Scott within five inches of being full.

June 20th, Dr. George Jewett and the Hon. Rodney Wallace placed 40,000 land-locked salmon in Scott reservoir, free of cost to the city. These fish are apparently doing well, and as they are surface feeders, it is thought, that in the course of a few years, they will improve the quality of the water.

RAIN-FALL.

Below we give the table of rain-fall for the past twelve months, kindly furnished us by Dr. Jabez Fisher.

December, 1880,	1.57 inches.	June, 1881,	4.15 inches.
January, 1881,	2.73 "	July, "	2.73 "
February, "	2.87 "	August, "	1.93 "
March, "	3.36 "	September, "	1.40 "
April, "	1.05 "	October, "	2.48 "
May, "	3.45 "	November, "	3.75 "

Total for the year, 31.47 inches, which is 10.53 inches less than the average. This is the smallest rain-fall since the construction of the water works.

MAINTENANCE.

From December 20th, 1880, to January 23d, 1881, the Commissioners were again obliged to supply the low service from Snow mill pond. This, in connection with the severe cold weather, freezing of hydrants, service pipe and mains, and the increased number of bursts in the old cement lined mains, have materially increased the cost of maintenance.

The 10 inch cast iron pipe crossing the River street bridge froze and burst the entire length. This was replaced, boxed, and packed with saw-dust.

During the coldest weather the hydrants were examined nearly every day. Those found frozen were thawed, and in every case of fire they were in good working order.

Leaks have been repaired as follows ; 25 joints, 4 hydrant valves, 12 service pipes, 26 bursts in cement lined wrought iron mains, making a total of 67 leaks.

We have also replaced the cement pipe under the railroad crossing at Rollstone st. and under the tracks near the Gas works, with cast iron pipes.

The Commissioners also abated water bills to the amount of \$426.80, to those parties deprived of water during the drought of 1880.

Our thanks are due to his Honor the Mayor, and the members of the City Council, for the courtesy and attention shown us at all times.

Value of stock and tools at shop, City Hall,	\$3,208 62
“ “ “ “ “ “ pipe yard,	3,431 32
“ “ “ “ “ “ Scott reservoir,	363 50

Annexed is a detailed statement of expenditures in the construction and maintenance of the works for the year ending Nov. 30th, 1881.

CONSTRUCTION ACCOUNT.

WATER DEPARTMENT.

For the year ending November 30th, 1881.

Paid Pay-roll, city,	\$2,299 88
Pay roll, Scott dam,	1,202 14
Union Water Meter Co., meters and bands,	772 75
Wm. A. Hardy, stop and waste cocks,	50 40
E. A. Goodrich, brick,	63 00
Chadwick Lead Co., pipe,	23 99
Union Machine Co., gate rods,	104 15
George K. Paul & Co., pipe,	397 21
Walter Heywood Chair Co., lumber,	5 04
Putnam Machine Co., dies,	2 17
A. W. Hubbard, stop cocks, etc.,	171 35

Paid Old Colony R. R. Co., freight,	\$57 45
I. C. Wright, cement and hardware,	85 61
Putnam Machine Co., liner,	26 64
Thomas C. Lovell, sundries,	22 89
Heywood, Wilson & Co., stop boxes,	171 50
Charles A. Priest, lumber,	109 92
Boston Machine Co., gate and stops,	41 48
Thomas O'Neil, teaming,	50 00
S. E. Brigham, blacksmithing,	9 92
J. Cushing & Co., cement,	12 00
W. W. Shattuck, stone boat,	4 00
Walter Shea, trucking,	6 60
Joseph Baldwin, powder,	5 88
C. H. Green, gate boxes,	4 00
J. H. Cobleigh, trucking,	3 55
Sewall, Day & Co., gasket,	9 54
W. H. Lowe, trucking,	3 45
J. G. Hayden, blacksmithing,	51 24
Parks & Carpenter, pipe and fittings,	133 68
T. M. Burke, pipe and fittings,	8 98
G. H. Litchfield, trucking,	6 80
George Robbins & Co., pipe and fittings,	21 48
Garvin Daby, blacksmithing,	5 95
George B. Knowlton, sundries,	9 00
H. W. Wyman, teaming,	75 00
$\frac{1}{2}$ Commissioners' salaries,	61 25
$\frac{1}{2}$ Superintendent's salary,	550 00
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Total Construction,	\$6,637 89

Brought over,

\$6,637 89

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By Cash received for service pipe,	\$308 23	
Bills due for service pipe,	1,450 27	
Freight bill on pipe returned,	26 19	
Account Scott dam,	432 11	
	<hr/>	\$2,216 80
Net Construction,		\$4,421 09
Unexpended,		78 91
		<hr/>
		\$4,500 00

CONTRA.

Appropriation,	\$4,500 00
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MAINTENANCE ACCOUNT,

WATER DEPARTMENT,

For the year ending November 30th, 1881.

Paid Pay rolls,	\$1,939 77
Boston Machine Co., gates,	42 25
George Farrar, damage, pipe bursting,	2 00
Lewis Gerry, damage, pipe bursting,	29 90

Paid Thomas C. Lovell, stamps, envelopes, &c.,	\$117 72
George T. Daniels, water rights,	25 00
H. F. Rockwell, glycerine,	12 50
Blanchard & Brown, printing,	10 00
Chas. A. Priest, lumber,	60 29
J. M. Peck & Co., teams,	58 25
Sentinel Printing Co., printing,	9 25
H. W. Wyman, teaming,	261 83
George Robbins & Co., lead,	28 08
W. H. Lowe, trucking,	16 04
Emery & Lamb, sundries,	4 14
I. C. Wright, cement, lead, &c.,	139 20
Union Water Meter Co., repairs,	69 70
Lyman Patch, lead,	32 70
Sewall, Day & Co., winding twine,	24 48
Parks & Carpenter, fittings,	16 32
George B. Knowlton, lead pipe, &c.,	109 13
Wm. A. Macurda, sundries,	3 40
Mial Davis, gate boxes and sawdust,	34 06
Old Colony Railroad Co., freight,	60 24
A. W. Hubbard, stop cocks,	8 00
F. H. Arnold, teaming,	11 00
James G. Hayden, blacksmithing,	54 38
Baker Brothers, sundries,	3 50
Putnam Machine Co., hydrant wrenches,	5 43
Warren Foundry & Machine Co., pipe,	364 36
A. B. Lawrence & Co., iron,	40 37
Seth Twichell, labor,	17 50
George H. Chapman, boots,	14 35
H. P. Tyrrell, repairs,	32 35
L. Sprague & Co., enamel cloth,	10 23
Walter Shea, trucking,	15 30

Paid Samuel Wheeler, right of flowage,	\$20 00
Kelly Brothers, sundries,	3 05
Heywood, Wilson & Co., sleeves,	119 72
G. H. Kellogg, printing,	15 00
A. J. Green, repairs,	6 00
D. H. Pierce, rubber boots,	6 50
J. F. Bruce, sundries,	2 33
M. N. Benjamin, oil,	14 94
J. P. Sabin, painting,	10 00
R. D. Wood & Co., hydrants,	274 73
A. H. Proctor, teaming,	3 10
F. A. McAuliff, teaming,	8 25
W. W. Shattuck, care of rack,	5 00
Fitchburg R. R. Co., freight,	6 17
George E. Waterhouse, sundries,	5 00
George H. Litchfield, trucking,	4 55
George W. Wright, printing,	2 00
J. P. Sheldon, repairs,	4 75
Telephone Co.,	7 80
½ Commissioners' salaries,	61 15
½ Superintendent's salary,	550 00
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Total Maintenance,	\$4,813 16
Balance carried to sinking fund,	11,454 21
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	\$16,267 37

CR.

By Cash received for water,	\$14,182 38
Cash due for water,	2,084 99
<hr/>	
	\$16,267 37

We estimate the maintenance for the next year as follows :

½ Superintendent's salary,	\$550 00
½ Commissioners' salaries,	100 00
Labor and supplies,	3,000 00
Sundries,	400 00
	————— \$4,050 00

C. H. BROWN,	}	<i>Water</i> <i>Commissioners.</i>
THOS. C. LOVELL,		
S. D. SHELDON,		

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